

NE 124 Minutes
12/08/03 Hyatt Regency
Chicago, IL

Action Items for immediate attention:

For the renewal, **send Bill Tracy your progress reports from the past five years.**

Sub-objective drafts of Objective, Methods, and Measurement of Progress and Results sections are **due to Margaret Smith by February 15, 2004.** See below for details.

Attendees

Public Sector: M. Bennett, J. Juvik, K. Mohan, J. Myers, G. Pataky, B. Scully, M. Smith, D. Wolfe, W. Tracy

Private Sector: J. Burris, K. Christensen, D. Courtier, G. Crookham, D. Fisher, M. Frobish, M. Gardiner, S. Grier, B. Hobdey, W. Houghton, L. Johnson, S. Marshall, G. McKay, T. Moran, P. Mosely, M. Murua, T. Natti, G. Oswald, S. Otto, D. Plaisted, E. Snyder, R. Teyker, K.

Thalacker, J. Wegner, M. Jones, D. Wilson

Administrators: M. Pfeffer, A.M. Thro

Agenda

Introductions

Approval of previous minutes

Comments from the Administrative Advisor

Industry Reports

Station Reports

Project Renewal

Adjourn

The meeting was called to order by the chair, Margaret Smith. Bill Hutchison could not attend due to soccer injury. Jim Myers volunteered to act as secretary.

Introductions: 28 individuals from sweet corn private industry (breeders, seedsmen, and agronomists) and 9 university technical representatives attended, in addition to the administrative advisor (Max Pfeffer) and the CSREES advisor (Ann Marie Thro).

A motion was made to approve the minutes from the 2003 Hawaii meetings held 7 – 10 February. Motion/Second Juvik/Bennett; approved unanimously.

Comments from Administrative Advisor: There has been an increased level of scrutiny for regional projects. Directors look at whether a project has added value – is multi-state collaboration effective? Regional projects are also viewed as investments or “seed grants” by supporting research that can lead to additional granting opportunities. In our revision, we need to show how our work is relevant and important to stakeholders. What are the emerging issues in sweet corn in the next 5 to 15 years?

Industry Reports

Seed production: Intermountain West (Idaho) - 2002 was a bad year and 2003 was worse. Heat was a major problem; additional problems were common smut and salt buildup. Transgenic pollen in seed production areas is also an increasing problem. Dairy production is increasing in Idaho, and farms are using genetically engineered (GE) field corn hybrids. Some overseas markets have zero tolerance for GE presence, which requires great expense in testing by seed companies to determine if contamination is present. It is also a problem with processed finished product, particularly that destined for foreign markets. Common smut continues to be a major problem for both seed production and processed production.

Processing: In the northern Midwest, there were pockets of drought and stress, but generally low disease pressure. Some maize dwarf mosaic virus, northern corn leaf blight, and common smut was present. The growing season in Minnesota had a dry finish causing reduced yields. Wisconsin had a better year although there were dry regions. It was a good year in Canada. It was a tough year in France (hot and dry). Because of the heat, field corn fields dried down earlier, which caused major earworm migration into the still green sweet corn. Resistance to pyrethroids appears to be developing in corn earworm populations. In Florida, March (spring planting) was warm and diseases normally seen in the fall (southern corn leaf blight, rust) were present. Diseases normally observed in March were lower than normal. In the Belle Glade area, growers are migrating from the muck soils onto the sand lands. New York had a good year with a wet finish. There are many acres of field corn and soybean left unharvested. Western Oregon generally had a good year. It was warm but no temperatures in the 100s (°F).

Suggestions from Industry for research activities to be considered for the NE 124 renewal:

- GE contamination in seed and processing production fields. GE acceptance by public. Safety concerns with GE varieties.
- Smut problem is critical.
- Development of pyrethroid resistance in corn earworm.
- Seed treatment trials have been very useful and Mohan has done an excellent service in obtaining section 18 approval of materials for use on sweet corn.
- Evaluation of new herbicides and varietal responses to different chemistries.
- How do we get more current germplasm for public breeders to utilize?

Station reports (Outline of presenters below with reports attached. Some notes included where not included in the report).

Breeding and Genetics

Scully (Florida)

Smith (New York)

Hawk (Delaware)

Juvik (Illinois)

Tracy (Wisconsin)

Myers (Oregon)

Physiology/Biochemistry

Juvik (Illinois)

Pest and Crop Management

Bennett (Ohio)

Wolfe (New York)

Juvik (Illinois): Sesquiterpenes from wild tomato as a spray on tomatoes and sweet corn – appears to be an attractant to ear worm.

Pataky (Illinois)

Smith (New York) – also reported for Hoffman , Bellinder)

New business:

Location of the next meeting – the recommendation of the ISCDA Board of Directors is to hold the next joint meeting in conjunction with the ASTA meetings in Chicago. A suggestion was made to hold NE 124 in conjunction with the Maize Genetics meetings. This was viewed as a possible way to engage researchers in molecular genetics and biochemistry. The issue of location was not resolved pending meeting with the membership of ISCDA. [ISCDA resolved in the business meeting the following day to hold the meeting in Chicago before ASTA.]

Discussion for Renewal:

Smith suggested that each NE 124 member indicate what research they are interested in pursuing and how they might collaborate with others. The discussion turned to the objectives, first examining the current ones and then developing new ones. In the rewrite, it is very important to indicate what is new in the continuation compared to the current project description. Appendices from the CSREES manual on writing and submitting project renewals were distributed. We will most likely be assigned a new project number unless we make a case for keeping the same number. It was decided to pursue a 15-year renewal. Objectives of the current proposal are shown below:

- A. Genetics and Plant Breeding: Germplasm acquisition, enhancement, and distribution, identification of new genes or novel allelic combinations useful in sweet corn improvement, and utility of marker assisted selection.
- B. Molecular Biology, Biochemistry and Physiology: Determine the genetic, biochemical and physiological mechanisms regulating carbon flow, and seed and food quality.
- C. Crop and Pest Management: Reduce environmental impacts of sweet corn production while maintaining or improving product quality.

New Objectives, sub-objectives, states potentially involved, multi-state collaboration, and the person responsible for leading the write-up of the sub-objective are shown below:

- A. Improve attributes/traits of sweet corn that lead to better food quality and human health.
 - Optimize human health properties of sweet corn by manipulating phytochemical content.
 - a. Who?: Illinois, Wisconsin, New York, USDA-Ames, Oregon, Florida.
 - b. Multi-state aspect: Sorting out GxE, complementary expertise of programs.
 - c. Responsible: Juvik

- Consumer quality (post harvest positive aspects, GxE)
 - a. Who?: Wisconsin, Florida, Illinois, USDA-Ames, Hawaii (New York & Ohio variety testing).
 - b. Multi-state aspect: molecular biology and breeding expertise brought together.
 - c. Responsible: Tracy
- Improve food safety including mitigating pest and disease effects.
 - a. Who?: New York, Illinois.
 - b. Multi-state aspect: Multi-location evaluation of ear rot material.
 - c. Responsible: Smith.
- B. Implement research in sweet corn that leads to environmentally and economically sustainable production.
- Identify disease and pest problems associated with sweet corn production and develop solutions with emphasis on host plant resistance and complementary control tactics.
 - a. Who? Wisconsin Illinois, Minnesota, Hawaii, Ohio, New York, Oregon, Delaware, Florida, Pennsylvania, Idaho.
 - b. Multi-state aspect: many.
 - c. Responsible: Myers (with assistance from Pataky, Hutchison, Hoffman, Mohan).
- Improve stand establishment and seed quality.
 - a. Who?: Wisconsin, Illinois, Idaho, Oregon, Florida, Ohio, Minnesota.
 - b. Multi-state aspect: Multi-state seed treatment trial, etc.
 - c. Responsible: Bennett (with assistance from Mohan).
- Develop strategies for long-term yield improvement, germplasm introgression, and improve our knowledge of GE crop issues.
 - a. Who?: (to be determined)
 - b. Multi-state aspect: (to be determined)
 - c. Responsible: Scully.
- Tailor weed management to current and new varieties and herbicides by evaluating varietal sensitivity to herbicides, assessing how less vigorous *se* and *sh2* varieties

compete with weeds, and evaluating weed competition in nitrogen stress tolerant germplasm.

- a. Who?: New York, Wisconsin, Oregon, Illinois (USDA), Florida Minnesota.
 - b. Multi-state aspect: Organize multi-state trials of weed control options.
 - c. Responsible: Bellinder
- Reduce problems associated with nutrients by breeding for improved nutrient uptake and use efficiency and reduced sensitivity to short-term nutrient deficits. Improve water use efficiency to improve tolerance to abiotic stresses.
 - a. Who?: New York, Delaware, Idaho, Vermont?
 - b. Multi-state aspect: germplasm to evaluate cooperatively.
 - c. Responsible: Wolfe

Margaret Smith agreed to coordinate the renewal process. Smith will also write the Statement of Issues and Justification. Tracy will write the Related, Current and Previous Work section. Members are to send progress reports and list of publications from the past five years to Bill Tracy as soon as possible. Smith will also coordinate the Outreach Plan. Our time line is as follows: Obtain approval to develop and submit a regional project as soon as possible (Smith to coordinate with Administrative Advisor and submit the required form). Have good statement of Objective, Methods, and Measurement of Progress and Results assembled and to Smith by February 15, 2004. **(NOTE: The entire proposal can only be 15 pages, so drafts for each sub-objective should average less than 1.5 pages!)** After complete assembly, the proposal needs to be **submitted for external review by April 1, 2004**, and then we will need to respond to reviewers' comments. Completed, peer reviewed, and revised proposal needs to be in the hands of the Regional Directors for approval by June 18, 2004.

Meeting adjourned 12/08/03.

Minutes submitted 12/10/03

James R. Myers, acting secretary